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AUTHOR Mizukami, Maria da Graca Nicoletti; Reali, Aline Maria de Medeiros Rodrigues; Reyes Claudia Raimundo; Lima, Emilia Freitas de; Tancredi, Regina Maria Simoes Puccinelli

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ABSTRACT

This paper describes a research project conducted by a Brazilian public university in partnership with an elementary school involved improving the quality of teaching and learning through an inservice teacher education program developed in the workplace. Project goals were to build a knowledge base of teachers' learning and professional development processes and to define when, where, and how participants would intervene in these processes. The project was characterized by the development, in collaboration with the school community, of intervention strategies allowing the construction and implementation of a pedagogical process shared by its members as well as the consolidation of professional autonomy among participating teachers. Data from teachers' oral and written reflections indicated that with time, teachers' narratives became more detailed, incorporating specific contents emphasized in the classroom. Teachers' thinking usually referred more directly to events than to conceptual explanations. Results highlighted the importance of developing pedagogical content knowledge to teachers' professional development, suggesting the need for time and effective learning opportunities so that teachers can rethink not only their role in the classroom but also their pedagogical practice, in order to overcome barriers related to construction of practices more compatible with student needs and principles supported by public policy. (Contains 27 references.) (SM)

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Public School: University Partnership and the Professional Development of Elementary School Teachers: Analyzing Some of the Impacts of a Long-Term Teaching and Learning Experience

Maria da Graca Nicoletti Mizukami, Aline Maria de Medeiros Rodrigues Reali, Claudia Raimundo Reyes, Emilia Freitas de Lima, Regina Maria Simoes Puccinelli Tancredi

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PUBLIC SCHOOL – UNIVERSITY PARTNERSHIP AND THE PROFESSIONAL DEVELOPMENT OF ELEMENTARY SCHOOLTEACHERS: ANALYZING SOME OF THE IMPACTS OF A LONG-TERM TEACHING AND LEARNING EXPERIENCE[1,2,3]

Mizukami, Maria da Graca Nicoletti, Reali, Aline Maria de Medeiros Rodrigues: Reyes, Cláudia Raimundo; Lima, Emília.Freitas de; Tancredi, Regina Maria Simões Puccinelli
Federal University of São Carlos – Brazil

INTRODUCTION

This paper reports the results of a six-year research, which is still in progress, conducted by a public university in partnership with an elementary public school (first four grades), both from the city of São Carlos/SP – Brazil, concerning a thematic program of applied research called "Public Teaching", sponsored by the FAPESP / São Paulo Foundation for Research Support. The program addresses the improvement of the quality of teaching and schooling processes through an in-service teacher education program developed in the workplace.

The goals of the project are twofold: to build a knowledge base of teachers' learning and professional development processes and to define when, where and by what means the participants will intervene in these processes with the goal of refining this knowledge. It is characterized by the development, in collaboration with the school community, of intervention strategies, which will allow the construction and implementation of a pedagogical process shared by its members as well as the consolidation of the professional autonomy of the teachers involved. Basically it intends to offer answers to the following general questions: To what extent a partnership process that considers the reflection on the pedagogical practice as its axis of development and implies interventions of constructive-collaborative nature in the workplace, allows us to know, understand and promote professional development processes of schoolteachers? To what extent does it constitute a strategy for the modification of a pedagogical action whose aim is to overcome the learning difficulties presented by the students of the elementary school?

A constructive-collaborative approach (Cole & Knowles, 1993) has been adopted, presuming that the improvement on teaching quality and the overcoming of school and student failure imply the natural and voluntary participation of teachers in the discussion of alternative propositions aiming to accomplish such goals. Such approach can be broadly described as:

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[1] *Research/intervention project "The reflection on the pedagogical practice as a strategy of modification for the elementary* public school as a perspective of continuing teacher education based in the work place", conducted by a group of researchers from UFSCar (Federal University of São Carlos), sponsored by FAPESP (Support Program to researchers related to public education in the state of São Paulo – ENSINO PUBLICO), 1996-2000.

[2] Research/intervention project "From the school's collective project to the classroom: Analyzing professional development processes of elementary schoolteachers", conducted by a group of researchers from UFSCar (Federal University of São Carlos), sponsored by FAPESP (Support Program to researchers related to public education in the state of São Paulo – ENSINO PUBLICO), 2001-2003.

[3] Paper presented at the 83rd AERA Annual Meeting, New Orleans – 2002.

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> ... the 'constructivist' camp in which teaching is understood to be a complex and personal phenomenon continually influenced and made meaningful by factors and conditions both inside and outside classrooms and schools. Also implicit is our belief that each teacher's practice is idiosyncratic, an expression of a personal and professional way of knowing that is shaped by events and experiences, both past and present, that take place at home, school, and in the broader societal and political spheres. Personal and professional backgrounds, experiences and perceptions, attitudes, beliefs, and goals underlie and inform the manner in which teachers carry out their lives and work in classroom communities and within the larger communities of schools and society" (Cole & Knowles, 1993:p.474-475).

It implies, amongst other assumptions:

a) the concept of the professional development of teachers, as part of a continuum that seeks to establish connections between initial and continuing teacher education;

b) the valuing, in the teachers' professional development processes, of contextual and organizational aspects, driven towards change, and combining the individual and collective of the pedagogical activity;

c) the construction of teaching knowledge as result of the dialectical relation between the individual and the collective;

d) the inquiry-reflection principle (Knowles, Cole, & Presswood, 1994), which: facilitates the teachers' understandings about their pedagogical practices; considers the collaborative nature of the roles impersonated by their peers; acknowledges the specificity of the pedagogical practice as requiring non-standardized solution; admits the influence of teachers' conceptions in the understanding of classroom events and in their teaching practice; enables the development of personal and professional autonomy;

e) ... [that] *new forms of partnership research are based on fundamental assumptions about the importance of mutuality in purpose, interpretation, and reporting, and about the potency of multiple perspectives. Also implicit in this model is the understanding that each partner in the inquiry process contributes particular and important expertise, and that the relationship between the classroom teacher and the university researcher, for example, is multifaceted and not powerfully hierarchical* (Cole & Knowles, 1993: 478).

f) the necessity of establishing a base knowledge that allows for professional development;

g) the consideration of processes of pedagogical content knowledge construction in different subject matters;

h) the notion of the school as an organization that learns;

i) the construction of professional empowerment processes directed towards the teachers;

j) the translation and transposition of educational public policies related to schools and classrooms.

This report aims to offer an overview of the whole project, presenting some basic theoretical-methodological guidelines extracted from the adopted theoretical-methodological references, the general characteristics of the research as well as some of the results that could be specified at the present moment of the investigation / intervention.

1 - THEORETICAL ORIENTATION

Assuming that learning to teach and to be a teacher refers to (...) *processes and not events* (Knowles, Cole & Presswood, 1994, p. 286), that these processes are rooted in different experiences and ways of knowing, which are initiated before formal preparation, and last throughout a teacher's professional practice and that the essence of this project is the reflection on pedagogical action as a powerful formative strategy for the elementary teachers under a perspective of in-service teacher education in the workplace, this study is grounded in five theoretical axes, which are presented and discussed in this session: teacher's thinking, reflection considered as conceptual orientation, the emergence of learning-in-context theories, knowledge base and the reasoning pedagogical process, and the school as an organization that learns.

Teacher's Thinking: some considerations

To learn to teach is a complex process that involves, amongst others, affective, cognitive, ethical, and performance related factors (Cole & Knowles, 1993). According to Calderhead (1993) coherent and comprehensive theoretical guidelines and a general theory of knowledge about professional learning that can enlighten the processes of professional development of teachers in ways to inform the construction of pre-service and in-service teacher education programs yet to be formulated. Such studies have also indicated that teachers' knowledge, beliefs, and goals are fundamental elements in the determination of how they act in the classroom and why they act that way; learning to teach is a developmental process and requires time and resources so that teachers' modify their practice; that the modifications teachers need to accomplish in order to contemplate what the new social and educational public policies demand go beyond the learning of new techniques, implying conceptual revisions of the educational and instructional process and of the practice itself.

It is also known that: the needs of students are the focus of today's educational public policies; the structure and content of professional development programs must be determined by the teachers themselves; the educational programs need to be adapted to specific schools; adult learning processes are more related to practice than theory and that support and professional growth environment is of extreme importance (Torres, 1998, 1999; Wittrock, 1986; Clark e Peterson, 1986; Darling-Hammond, 1994; Marcelo, 1998; Calderhead, 1996; Schoenfeld, 1997).

Many researchers have offered important contributions to the development of a new epistemology of practice (even though that terminology is the focus of some discussion), which considers specific needs of teachers' professional development: Schön (1983, 1987, 1988), Elbaz (1983), Nóvoa (1992), Calderhead (1993), Knowles, Cole & Presswood (1994), Clandinin & Connelly (1996), Shulman (1987, 1988, 1996), Zeichner (1993), Doyle (1990), Huberman (1993) amongst others.

Despite all the different theoretical and methodological orientations under which the theme is studied, reflective teaching expresses the preoccupation with personal experiences and practice in the professional development of teachers. The basic assumption of reflective teaching is that teachers' beliefs, values, and hypotheses on teaching, subject matter, curricular content, students, learning, etc., enhance their practice. When the teachers describe, analyze, and make inferences about classroom events, they are creating their own pedagogical principles. The reflection would offer them the opportunity to gradually make their practical/implicit theory objective.

It is important to consider that *reflection* is not taken here as a synonym for *wise judgment*. It is well known that experience can lead to wrong learning and to the crystallization of inadequate and discriminatory practices.

Reflection as conceptual orientation

It is agreed that in this work reflection is conceptual orientation that avoids conflicting ideas for teaching. According to Valli (1992), despite their differences, researchers adopt the basic assumption that reflection is a conceptual orientation, admitting different variations (emphasis in specific content and emphasis in personal experiences, amongst others). Only a reflective paradigm, says Valli, has the power to integrate distinct components of teaching: reflective teachers base themselves on personal knowledge, professional knowledge, propositional knowledge, and technical knowledge. Another benefit of considering reflection as a conceptual orientation relates to the fact that reflection may be not considered a natural disposition. Without an explicit commitment to reflection, reflection will probably be sporadic and superficial. Valli states that there are at least six different levels of knowledge that orient the practice, grouped into two approaches to teaching: technical rationality (level 1 – behavioral, and level 2 – technical decision making) and practical reflective (level 3 – reflection-in-action, level 4 – deliberative, level 5 – personalistic, and level 6 – critical).

These six levels may be seen as hierarchical qualities of good teachers and are compatible with the teachers' use of different types of knowledge in their practice. The world of practice, in this way, understands both technical rationality and reflective practice.

By proposing this taxonomy, Valli (1992) considers the conceptions of educational excellence. The three last conceptions (deliberative, personalistic, and critical levels) are potentially more inclusive in what refers to educational values and social responsibility. The order suggests that certain levels must be considered as pre-requisites to others, and that certain themes or educational questions have different emphasis. A reflective orientation for teacher education should clearly contemplate the content, processes, and attitudes valued in the reflective practice.

Hatton and Smith (1995) have also studied this issue and established another taxonomy related to the way teachers use knowledge to guide their practice when writing reports, describing the characteristics of a descriptive report, descriptive reflection, dialogical reflection and a critical reflection.

The emergence of theories of instruction and the importance of 'teaching-in-context' theories

Although there is a vast amount of literature describing teachers' knowledge, behavior, beliefs, values, processes of meaning attribution and decision making, there is no available theory about professional learning that defines how these elements correlate and how such processes occur or might be produced/constructed in an efficient way.

Schoenfeld (1997) proposes the development of a theory of learning-in-context seeking to offer theoretical references on how and why teachers act the way they do when teaching. According to Schoenfeld, teaching is a dynamic act, responsive to the teacher's role, to what happens when interacting with students. It occurs in, and as a function of, a certain institutional context. The teachers, when teaching, find themselves constantly observing what happens during class, and his/her acting is guided by perceptions and interpretations of these observations.

This characterization of teaching is incorporated into a model of teaching process. Focusing on mechanisms, the model seeks to explain in detailed fashion precisely what choices the teachers make at each point of the instructional process, and what beliefs, goals, and knowledge these choices depend upon. As a model, it is a useful aid to deal with a complex phenomenon: the behavior of teachers in action.

The model offers theoretical anchorage to the *teaching and learning experiences* conceived and employed by this project, conducted as a strategy for professional development (formative strategy) and the understanding of this process (investigative strategy).

Knowledge for teaching: knowledge base and the process of pedagogical reasoning

Schulman (1986, 1987) proposes two models for the investigation of the role of knowledge in teaching, for the foundations of knowledge base for teaching and for pedagogical processes of reflection and action involved in teaching: *the personal knowledge base and the process of pedagogical reasoning*. Both theoretical orientations consider different types of knowledge for teaching and the processes by which this knowledge is constructed and utilized.

By knowledge base we understand the body of understandings, knowledge, abilities and dispositions necessary for the effective teaching in specific situations (Wilson, Shulman, & Richert, 1987). On the foundations of this knowledge base, we have different kinds of knowledge that support the decision making process of teachers (Schulman, 1986, 1987): specific content *knowledge* (basic concepts of an area of knowledge which implies comprehension of ways of thinking and understanding the construction of knowledge in one specific area and its structure); *general pedagogical knowledge* (knowledge that transcends the realms of one specific area and includes the knowledge of educational goals; of teaching and learning; of classroom management; of teacher-student interaction; of instructional strategies; of how the student learns; of other

contents; of curricular contents) and the *pedagogical content knowledge*. By exercising their profession, teachers develop a new kind of knowledge of their specific area that is improved and enriched by other types of knowledge (student's, curricular, other areas, and pedagogical). This is the pedagogical content knowledge, which can be considered a new type of knowledge, for it embodies the more relevant aspects of the contents to be studied, by means of more pertinent concept representations, of powerful analogies, illustrations, examples, explanations, and demonstrations (Schulman, 1986). It also includes the understanding of what makes it harder or easier to learn specific issues or topics, and the conceptions and pre-conception of students of different ages and backgrounds.

According to Schoenfeld (1997), what a teacher can perform in one specific situation is fundamentally shaped by a group of intellectual resources that he or she brings to the teaching situation. This is called the knowledge base. The plans of action – in diverse levels – occupy central position and can be used to activate the goals. This is a broad category that includes a variety of knowledge both general and classroom related, including the knowledge of interactive routines, considered by literature as being basic to teacher education processes: Shulman (1986, 1987), Calderhead (1996), Clark and Peterson (1986), Fenstermacher (1994), Darling-Hammond (1994).

Taking the contents of knowledge into consideration, literature has pointed to a broad variety of categories: personal practical knowledge, knowledge-in-action, professional knowledge, case knowledge; educational foundation knowledge, metaphors, and many others equally important to the process of the professional development of teachers.

Schoenfeld (1997) adopted same distinction made by Shulman. According to Schoenfeld (Ibid.), beyond the inventory of knowledge, a second basic point that permeates all the aforementioned categories refers to how the knowledge is accessed and used. This point is crucial to the elaboration of a teaching-in-context theory.

The process of pedagogical reasoning (Shulman, 1987; Wilson, Shulman & Richert, 1987) consists in a process of reasoning and action involving six aspects common to the act of teaching: comprehension, transformation (interpretation, representation, adaptation, and consideration of specific cases), instruction, evaluation, reflection, and new comprehension. By means of this process, the professional knowledge may be constructed.

The school as an organization that learns

Taking into consideration the fact that teachers need time and mental space – which should be guaranteed institutionally and by public policies – in order to develop themselves professionally (McDiarmid, 1995), the school as a work environment assumes considerable importance in the promotion of the professional development of its members. This development, embodied by the schoolteachers, is converted into improvements for the school and for the teaching-learning process. It is very important to note that the system or educational institution

perceives itself as an organization that learns through the dynamics that follow and provides change as a function of its necessities and goals.

The concept of organizational learning considered here includes: learning with the results (products), that is, to acquire information (knowledge, understanding, know-how, techniques, or practices); learning with the process or with the way these results were obtained, acquired, or processed; how the information was stored; and to consider the apprentice to whom that process is imputed (Argyris & Schön 1996).

According to Argyris & Schön (1996) an organization that learns is the one in which each member constructs his or her own representation of the theory-of-action implicit in the performance of a pattern of activity.

It can be said that organizational learning occurs when its members experience a problem situation and inquire and reflect, adding to the collective knowledge of the organization. As a result of this process there may be modifications of the theories-of-action in use.

Argyris & Schön (ibid) emphasize that such results can only be considered as organizational learning products when they are accompanied by changes in the behavior (indicators of alterations in the organizational theories) and of action in use and only when they bring individual images (memories, maps, or programs) that store organizational knowledge.

An organization that learns needs a formal way to establish questions, searching for theories and testing them, at the same time continually reflecting over those same theories.

The process of professional development and learning, if adopted and incorporated by the school, has the potential to constitute the axis of the school's leaning in its search for offering teaching and learning processes which effectively make a difference for all the people involved, be they teachers, administrators, students, parents, or community. In order to make that accomplishment, the schoolteachers need to be engaged in professional development activities and time and mental space (McDiarmid, 1995).

2 - The Research – Methodological Orientation

By investigating the teachers' processes of professional learning and development, one of the primary goals of this project has been to design and to implement a program that engages the schoolteachers in their professional learning and development processes. This program is expected to bring improvements to both teachers and school and to be a permanent presence in the school's activities even after the research ends. It is also expected that the program will, in a short time, exert an impact on the learning and teaching processes developed in and by the school. The study contains characteristics of action-research, in the understanding of action oriented by research, and research based on action, reflection, decision-making processes, and self-evaluation (Bayne-Jardine, 1994). Reflecting the theoretical orientation, the methodological approach includes descriptive and analytical studies, follow up studies, ethnographic studies, case studies, and the

use of several data sources (observation, participant observation, diary entries, interviews, document analysis etc.), pertinent to each of the issues studied.

The basic concern related to the understanding and promoting of teachers' professional learning and development processes, expressed through the following questions, *To what extent a partnership process that considers the reflection on the pedagogical practice as its axis of development and implies interventions / actions of constructive-collaborative nature in the workplace allows us to know, understand and promote professional development processes of schoolteachers? To what extent does it constitute a strategy of modification for the pedagogical action, aiming the overcoming of the learning difficulties presented by the students of the elementary school?,* was investigated in **two phases**. The first phase encompassed the period from 1996 to 2000, and the second, which is still in development, the period from 2001 to 2003.

During the first four years of the development of the study (first phase), the specific question that guided the investigation was: *How could a constructive-collaborative intervention (that draws on the reflection on the teachers' practices in their workplace) be considered and used as a successful strategy for improving pedagogical actions in ways to overcome school, teacher, and student failures?*

Some specific research issues include:

a) Knowing the population of the school, identifying who fails, when, how, and in what circumstances, as a preliminary step so that collective pedagogical actions, coherent with the school's ethos may be constructed with school success as a goal;

b) Finding and exploring organizational spaces, taking the school culture into account, in order to consider (individually and collectively) teachers' beliefs and personal theories on curriculum and school knowledge;

c) Investigating the process of professional development of teachers in these different dimensions (cognitive, affective, moral, and technical), and curricular components, revealing how teachers build their learning/professional development trajectories, seeking the proper identification of these trajectories, and, in that dynamic, the influence of broader personal, institutional, and contextual influences.

The research's main goals, in this phase, were to: a) acquire knowledge about professional development of teachers' and the best way to investigate such issue; b) acquire knowledge about the process of conceptual development (related to the teaching and learning processes and the educational phenomenon) and of practices made possible by the use of a constructive-collaborative approach; c) promote the professional development of teachers by means of the reflection on the pedagogical action according to the assumptions of the constructive-collaborative approach, centered in the elementary school; d) promote the adequate utilization of different spaces of

knowledge, especially the school library, with emphasis on the development of abilities, skill to browse, and the ability to utilize the various sources of information; e) assess a methodology of a school based in-service teacher education; f) assess the formative and investigative tools constructed and utilized and g) offer contributions and guidelines for the development of pre-service and in-service teacher education programs.

The present period (from 2001 to 2003) – considered as the project's second phase – contemplates the following research questions, originated from and related to the former ones:

How do elementary schoolteachers 'translate' the knowledge base for the first four grades of the elementary school – collectively constructed by means of a collaborative work involving partnership with university and public school? How does this 'translation' contemplate the knowledge base understood according to two levels: the explanation of the curricular contents and the consideration of an individual project of professional development? How do the schoolteachers perceive the impact of the individual projects in their pedagogical practices? What kind of contributions such different individual 'translations' – constructed considering the collective constructed knowledge base for teaching – might have considering the school as a community of learning?

The goals of this second phase of the project are:

1. To analyze different individual 'translations' of the elementary schoolteachers related to the constructed school collective project taking into account two axes:
   a) the knowledge base (specific content knowledge of different subject matters that compose the curriculum of the first four grades of the elementary school) related to the individual projects of each one of the schoolteachers, and
   b) their pedagogical practices.
2. To analyze how the schoolteachers perceive the contributions of a constructive-collaborative work that contemplates both individual and group levels, to their professional development processes.
3. To analyze the contributions of these different individual 'translations' dealt in a constructive-collaborative way, to the school as a learning community.

The project has been in development since August 1996. At the moment, the participants integrate a group formed by 23 professionals from a public elementary school - State School Prof. Luiz Augusto de Oliveira / São Carlos-SP (20 schoolteachers, the principal, the pedagogical coordinator and the library assistant), 5 researchers from the Federal University of São Carlos-SP, and three specialists from different subject matters. Ninety percent of the professionals of the elementary school participated in the six years of the project. The condition for joining the second phase of the project was the participant's collaboration in its first phase, since the knowledge base of teaching was constructed during that phase. Schoolteachers and specialists receive scholarships

from the "Public Teaching Program' sponsored by FAPESP. The project requires 10 additional hours of work and study each week for the schoolteachers, including a weekly group meeting of three hours. The research group has an additional weekly meeting of four hours in order to analyze the current issues raised by the project and to plan the next activities, interventions or actions, based on a decision making process. All the participants involved are of the female gender.

Around 1200 students are enrolled in the first four grades of elementary teaching at the project's partner school, State School 'Prof. Luiz Augusto de Oliveira'. The school is located in the central region of the city of São Carlos and different social, cultural and economical backgrounds as well as diverse types of previous experiences characterize the students.

The project began as an initiative of the administrative and teaching staff of the elementary school, in order to develop a partnership with the researchers of the university, in aims to understand and overcome the difficulties and challenges faced by school. The continuation of the project (its second phase), in the same way, was the result of the school demands, in order to implement the knowledge base collectively constructed by the schoolteachers.

The biggest challenge continually faced during this research has been to construct investigative and formative strategies that, in a procedural way, provided an answer to the problem under investigation.

A significant part of the activities developed during the first year of the project was dedicated to studying the conceptions of schoolteachers with regard to the diverse aspects of the educational phenomenon, the teaching profession and the pedagogical practice. The data are being extracted predominantly from oral or written reports made by the schoolteachers and are related to these conceptions.

During the first year of research we dealt with situations that could be considered as of reflection-on-action, with narratives that make beliefs, values, and personal theories of the participants evident. Relations between conception, practice and dimension of the professional development were also investigated during this period. Finally, since this project was the first collective experience in research for all the participants, a common language was established to enable the participants to communicate.

From the second year of the project on, a strategy for the promotion and investigation of learning ad professional development processes was progressively construct. This strategy proved itself to be a powerful tool for the investigation and the intervention. The promotion and the investigation of processes related to the learning and professional development of teachers, thus, could be achieved through the construction of many of these strategies, labeled by the research group as 'teaching and learning experiences'.

> They are structured situations of teaching and learning planned by the researchers and schoolteachers, implemented by the schoolteachers, collectively discussed, and originating from issues chosen by them individually or by the group. These experiences are circumscribed processes – which may imply actions involving small groups of teachers or classrooms (teachers and their students) -, usually deriving from practical difficulties related to the understanding of curricular

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components, school daily activities or challenges posed by public policies (Mizukami et al, 1998, p.3).

These experiences revealed themselves as a powerful strategy for intervention and shared work, allowing the development of reflective processes in different moments and levels, as much as providing data that answered the research's questions. Using these experiences as a starting point it has been possible to analyze the teachers at different stages of their teaching and learning experiences; to understand specific learning by the teachers in real teaching and learning situations and specific contexts, which challenge them to reflect, verbalize their beliefs, and describe their practices, taking experience into account; to construct situations of reflection-on-action with narratives that make beliefs, values, and knowledge evident; to visualize everyday school situations that require decision making, interpretation, evaluation, and the elaboration of new plans of action from the teachers and, in a non-intrusive way, to access the classroom processes effectively developed by the teachers. With these tools it has been possible to have access to the teachers' classes focusing on the planning, implementation and assessment of concrete experiences realized during their teaching in order to better understand the pedagogical practices by them developed.

The 'teaching and learning experiences' developed during the two phases of the project have been diverse and sought to encompass different aspects of the teacher work in order to make possible the investigation of the teachers' professional development processes, their ways of thinking and constructing their practices, as well as the promotion of such processes. During the past years, the following teaching and learning experiences were developed: *Knowing the school students; Constructing the school knowledge base: what my student must know; School-families interactions: let's help our children; Let's assess our students: constructing a common assessment tool for each grade; School library and the searching for references; Specifying pedagogical discourse versus contrasting personal theories; Hearing and telling stories: child literature in perspective; The school library and the creation of new spaces of knowledge; Telling stories in the schoolyard; Knowing and interpreting the Brazilian National Curriculum Guidelines; Contrasting personal, collective and official discourse; Personal and professional stories: searching for individual and collective meanings; Translating a collective project into classrooms practices: the Water Project; Translating a collective project into classrooms practices: the People Project.*

During the fourth year, a collectively constructed project of professional development focused on the school itself was emphasized. The main axis of this specific intervention was the Brazilian National Curriculum Guidelines for the Elementary School Teaching.

The emphasis, on the fifth year of the project (which marked the beginning of the second phase) was given to the individual and collective translation of the school-constructed knowledge base for the elementary teaching considering the so-called transversal themes. Given the nature of these themes, the teachers were challenged to deal with all the curricular components having a transversal theme as their axis. During this year two projects were planned, developed and assessed, considering Environment and Plurality.

The sixth year of the project, which is currently in development and is also its last year, will imply the development of two more teaching and learning experiences related to the transversal themes: Health Education and Citizenship, considering, also, all the curricular components of the first four grades of the elementary school.

At the present moment, the research group's main goal is to ensure that at the end of the project (January/2003) the school professionals will be left with a newly acquired capacity for autonomous professional development.

With decisions made during the research process, and adopting a qualitative research paradigm, most of the basic sources of data were: participant observation, interviews, reflective diaries, student produced material, minutes of the School Board meetings, oral and written reports, documents and PTA meetings. The data, which were the basic source for the collective planning of actions/interventions/investigations, were analyzed. It should be understood that this is a case of action-research.

Many methodological questions were raised during the project's development. They predominantly refer to the process of investigation made by a team of researchers from different backgrounds and who continually performed many diverse roles. From this point of view, collaboration is understood to be a product of relations and contributions of different natures.

Wasser & Bresler (1996, p. 6) conceive interpretation as a collaborative act and utilize in their work the concept of interpretative zone, which is defined as *...the place where multiple viewpoints are held in dynamic tension as a group seeks to make sense of fieldwork issues and meanings.*

The project group is also considered to be an interpretative tool, and for that reason, the analysis made by Wasser & Bresler is pertinent. According to them, the group is a critical methodological tool, even though they admit there is lack of descriptions and dense analysis related to the interpretative process developed by groups of researchers.

> We often assume that what we know of the ways that individuals conduct qualitative research can be transferred to what groups do, but we have not truly considered the differences between these two situations and the fit or lack of fit between them (p.8).

Wasser & Bresler point out methodological questions that are critical to the interpretative processes of qualitative research and which, until now, have not been adequately contemplated by teams of researchers (p. 8). These questions are also faced in the current project (taking into consideration all of its peculiarities): what are the main ethical issues faced by the research team regarding access, confidentiality, and reciprocity? How should themes related to voices be investigated by practical and theoretical points of view? What are the costs and benefits derived from a research team? What are the credibility issues involved in the group's interpretative process? Is consensus a necessity? How can interpretative consensus be defined? How can a research group arrive at an interpretation? How can the adoption of this interpretation represent the multiple voices involved? Such questions, not yet answered, are related to the interpretative zone.

The group as an interpretative tool, according to Wasser & Bresler (p. 8), has shape, color, tone, value, style, and possesses multiple voices that work as multiple lenses. The group faces at every moment a continuous process of putting to test and clarifying those interpretations, which demonstrate how important and complex the issue related to beliefs and suppositions underlying the interpretative process, is. Its members have their roles and positions changed when they observe the concerns, themes, questions, and problems, of the other members. This process allows for each member to see the data from new positions and manners. The group also faces situations that involve ambiguity and truth. Contradictions arise in the face of different types of knowledge. Uncertainties are found in problematic situations; perplexities, difficulties, and obstructions are present in the interpretative process. To Wasser & Bresler, trust as moral and political instance is of extreme importance because the dialogical inquiry must, by definition, comport a certain amount of ambiguity which can be considered in different ways, depending upon the circumstances under which they are created.

From this perspective, trust is a necessity for collaborative projects. It is, nonetheless, a complex and multifaceted notion. The kind of trust needed goes beyond mere listening and tolerance. It includes the certainty that the message of whoever speaks will be taken seriously and will, in a sense, affect the outcome of the project. There is also the trust nurtured by conversational inquiry – the one members must have for the group to tolerate ambiguity, misunderstandings, clash of points of view, and continuous discussion, even when it becomes uncomfortable to put oneself in another's shoes.

Wasser & Bresler (1999), reporting a process on a group research they have experienced, explain:

> The process of becoming a group with the specific purpose of forging interpretative meaning in our collective meetings occurred on both conscious and unconscious levels. Developing a meta-awareness of group as an interpretative tool was not an isolated occurrence; it unfolded in tandem with deepening awareness of our reflexive processes on a number of fronts. This meta-awareness provoked us to think about the ethical issues implied in the multiple roles we occupied, not only in relationship to each other, but also to those in the field to whom we were connected both directly and indirectly through the interpretative meetings. In hindsight, it has also raised questions for us about issues of costs and benefits, as well as about the ways we 'fix' our interpretation (p.11).

Methodologically speaking, this project faced dilemmas relating to what educational research literature considers as collaborative research, action-research, academic knowledge, and practical knowledge (academic research and practitioner's research), that is, academic paradigms versus practitioner's research.

By assuming a constructive-collaborative approach, we are at the same time aiming to investigate the professional development process of elementary school teachers and to promote said process for all members of the group (university and school), taking into account the peculiarities of this kind of research and the still recent dilemmas of investigations that involve researchers in the investigated situations as participants and co-authors of the actions, but also as investigators or the triggered and experienced processes: research conducted by academics versus and/or research conducted by practitioners (Schön apud Anderson & Herr, 1999; Zeichner, 1998);

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the epistemological status of the researches conducted by practitioners (Anderson & Herr, 1999; Zeichner, 1998); different conceptions of collaboration and collaborative research (Clark et al, 1996,1998); different meanings / concepts of action research (Elliott, 1991; Clark et al, 1996,1998), for example.

3 - RESULTS[4]

The main results of this research, analyzed according to the theoretical-methodological referential adopted, which implies the consideration of characteristics of the teachers' thinking; theories of instruction and learning-in-context theories; institutional conditions regarding the implementation of educational public policies; strategies of professional development centered on the school itself, and in classroom practices; the concept of the school as an organization that learns; the research group as an interpretative tool, and collaboration as process that implies diversified exchanges between partners (Mizukami et al, 2002), will be here presented in two parts. The first one will offer a synthesis of such results: general results, knowledge base and partnership / collaborative work. The second one will contemplate some specific analysis foci: teachers' personal theories; school knowledge; specific content knowledge; pedagogical content knowledge; students' knowledge.

3.1 SYNTHESIS OF THE RESULTS

General

- The school teachers' thinking – expressed through oral and written reports – usually referred more directly to events than to conceptual explanations. Nevertheless, it was observed that during the development of the project, some of the teachers began to base their individual analyses considering situations as a whole, instead of focusing on the details and specifics of each event. It can also be said that attempts to obtain general rules out of particular situations continued to be made, but some of the teachers seemed to be more careful when considering extracting a concept from a single example.

- Regarding the engagement of the teachers in the process of reflecting on their practice, it was observed that when the matter of discussion was related to the foundations of their teaching, the debates, proposed questions and answers sought by the group were marked by intense participation. The type of intervention selected ensued this pattern to become more constant and involving, in consequence of strategies that generated unbalanced situations that, in turn, stimulated the growth of stronger and deeper engagement.

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[4] *The results of this research are presented and discussed in Mizukami et al (2002). Escola e Aprendizagem da Docência. Processos de Investigação e Formação. São Carlos,SP: EdUFSCar, INEP, COMPED, 2002.*

- Whenever theoretical matters were concerned, the participation was more restrained, and difficulties regarding verbalization appeared in very accentuated form. From the teachers' point of view, the pedagogical practice on the four initial grades of the elementary school belonged to their professional domain, while theories were left to the professional domain of the researchers.

- The concepts verbalized were analyzed through what is considered a reflective process. There are hints of the existence of different levels and types of knowledge, suggesting that the axes or continua identified might be interpreted considering reflection as conceptual orientation.

- The *teaching and learning experiences* revealed themselves as important and efficient strategies, as far as the teachers' learning is concerned. The teaching and learning processes observed were not linear, continuous, uniform and predictable. The experiences did not affect the teachers with the same intensity, nor it can be said that they have broken with the different types of resistance presented. Such experiences became important 'learning to teach' and professional development tools, since they offered all of the project participants concrete situations on which their different types of knowledge could be triggered and related. Their doubts in different fronts were highlighted, their certainties put to proof, and their implicit theories challenged.

- At the actual phase of the project most of the teachers have accepted talking about their teaching, confronting it with their peeress's, and discussing it in a less defensive way, objectifying it, systematizing it, suggesting strategies, allowing gradual access to their secret stories.

- Aspects related to the adult's learning has been also considered. The teachers' learning process is more practical than theoretical oriented; the teachers' interests are higher when the proximity of themes, experiences, and activities to the world of practice is closer.

- The results of the research project gave repeated evidence that the construction of the pedagogical content knowledge consists the guiding light of the teachers' professional development, indicating the necessity of time and effective learning opportunities, so that the schoolteachers might rethink not only their role in the classrooms, but also their pedagogical practice, in order to overcome eventual barriers related to the construction of practices more compatible with the population that attends the school, and to the principles defended by educational public policies.

- Sharing the same grade seems to be a facilitator on settling professional and personal relationships between teachers. Whether or not to teach the same grade may not make a difference when the bond between teachers is stronger. To feel somehow excluded from the group is a situation able to approximate teachers, regardless of grade, and perhaps, of worldview, at least

considering some cases and moments. Furthermore, the conditions for partnership are not always the same for each member of the group.

- The dynamics adopted by the researchers might be mobilizing, catalyzing or articulating processes that are latent in the institution; the investigation of the relationships between members of the group and their position within it seems necessary.

- The situations that consider the context of the teachers' activities seem to mobilize deeper beliefs that escape the censorship of current dominant discourse exerted by, for instance, public policies. These policies have informed courses and governmental proposals and, in a way, are incorporated by the teachers in their own discourse, but not necessarily alter their beliefs and practices. Learning in specific context seems to encompass the realms of teacher education, teacher expression, and perhaps the modification of said beliefs for those who seek the meaning of teaching not only in its daily practice, but also in its social finality.

Knowledge Base

- The professional dimension of the schoolteacher's and the knowledge base for teaching by them adopted might be grounded in two content areas: Portuguese and Mathematics, in this order, even when the teachers themselves presented some difficulty to master the curricular subject matter related to these two areas. The way they teach, however, seems to be similar for both these categories, grade, learning styles and students' repertoires notwithstanding. Based in content transmission, it seems to be consensual that this situation couldn't be different. Portuguese Language – especially the literacy process – seems to be the focus of the professionalism of the elementary schoolteachers. The verbalized teachers' knowledge seems to be related much more to a list of contents than to processes of construction of such knowledge. The list of contents is, otherwise, related to knowledge directly to be applied in specific classroom situations. The contents, which are not at first sight perceived by the teachers as applicable, are not by them considered. Possibly such ideas explain their constant doubts: 'how should I teach when...".

- When the 'teaching and learning experiences' concerned specific curricular contents and components, the weaving of knowledge of different sources, beliefs, goals and hypotheses underlying the pedagogical practices declared by the teachers was observed.

- Changing grades, for the teachers, seems to be an extreme factor of unbalance, at least concerning reflection on their own practices. To teach in a different grade creates professional dilemmas for many of the teachers. In order to cope with these changes the teachers frequently turn to strategies, which are similar to those from the beginning of their professional career. Such changes propitiated important situated and in-context-learning, and made the confrontation of

individual practices of the teachers with those of their peers possible, which disturbed the conceptual hegemony and methodology in that grade, in favor of reframing that facilitated the construction of new practices.

- Some tendencies were observed: the low expectations regarding what is taught to the students; the non differentiation of what is indicated when what is taught when one considers each of the four grades; the attribution of greater importance to Portuguese and Mathematics in detriment of other contents, which, when brought up, seemed to constitute more a declaration of aspiration than an appropriate knowledge set, connected to goals to be aimed for and achieved. Such tendencies offered some contributions to the understanding of the process of the construction of the teachers' knowledge base for teaching. They particularly illustrate the question: 'what must the teacher know?'. They were a necessary first step towards the comprehension of how 'the teachers know what they know'. At first sight, when the teachers presented the roll of expectations, those can be interpreted as corresponding to a broader vision of the educational process, including equity and social justice. A deeper analysis of the practices declared by the teachers, nevertheless, indicates that such roll of aspirations – including the current school culture – do not translate the real meaning of what occurs on the school's routine. An analysis that, at first sight could be considered progressive covers a traditional and vertical pedagogical practice.

- The construction of pedagogical content knowledge (Shulman, 1986,1987) was and has been considered by the teachers as the most important element necessary for learning to teach. Somehow, though, their fragile specific content knowledge constitutes, in different moments, an obstacle that does not allow the pedagogical content knowledge to be more articulate, rich and flexible, contemplating different transformations of the same content to different types of student (with different repertoire and learning styles). The poor mastering of the specific content knowledge, in this way, seems to influence the quality of the teachers' professional learning processes when the construction of the pedagogical content knowledge is considered.

- The pedagogical knowledge, the contents related to educational, developmental and learning theories and proposals, as well as goals and educational purposes, curriculum etc. are rarely mentioned in spontaneous fashion. It seems to be more closely related to school situations and specific contexts (particularly the classroom), than to other contexts, taking into account broader educational finalities and goals, the curriculum, families and community. It is knowledge that the teachers put to use when they try to explain their pedagogical practices, but under a set of precepts that reveal partial and episodic comprehension of such knowledge. 'Constructivism", for instance, is generally translated as a group of precepts related to instructional problems. 'Knowledge construction' is understood both as the offer of conditions that make possible student learning, and

as the consideration of an abstract process of construction free of any kind of intervention ('the child will learn with time').

- The learning styles of different students, as well the heterogeneity of classrooms are rarely mentioned when the teachers try to explain learning difficulties. They seem to feel more responsible for the student's success than for the student's failure.

Partnership – Collaboration

A work process of such nature provides challenges inherent to the peculiarities of the adopted model. In that sense, the project's development revealed that:

- The inclusion of the research group into the school's environment and the construction of a shared program of professional development is a process that can be considered as of unstable balance and needing to be reworked at any given moment, thus demanding a high degree of involvement from its participants. At some points, processes of legitimization or non-legitimization of the discourse over pedagogical practice became noticeable, demanding constant reviews of the dynamics of the school group that had to be rethought every step of the project, claiming redirectioning. The construction of partnership, under that view, implied the constant reanalysis of the schoolteachers group, the researcher's group and the whole group, constituted by all participants, in a process of continuous negotiation.

- The professional development of the schoolteachers was and has been not linear and revealed itself as being of processual learning. In that way, the conquers were slow, fruit of labor and arduous and systematic investment, calling for the guarantee of a common space for discussion and collective construction, considering processes of professional learning.

- The 'teaching and learning experiences' revealed themselves as powerful strategies of intervention and shared work, allowing the development of reflexive processes possible at different moments and levels.

- The most evident difficulties were related to processes of implementation of educational public policies, the majority of which did not reach the school and the classrooms, or, when they did, present language, format, and concepts of difficult comprehension in what refers, mainly, to the possibility of the didactic transposition that would guarantee their incorporation in the classrooms daily activities (e. g. The Brazilian National Guidelines for the Elementary School).

- The processes experienced were slow, arduous, and involving for all of the participants. Minor changes were first steps for more significative ones, and the development of the project offered plenty indicators to support that statement.

3.2 - Some Analysis Foci: Teachers' Personal Theories, School Knowledge, Specific Content Knowledge, Pedagogical Content Knowledge and Student Knowledge

- With time, the teachers' narratives became more detailed, incorporating the specific contents worked in the classroom, and also how to work such contents. It is possible that this last aspect synthesizes the essence of teaching, since when a teacher describes his or her professional experiences, revealing what and how he or she worked with a particular student, in reality he or she is exposing his or her knowledge concerning specific and pedagogical contents, pedagogical content knowledge and the knowledge he or she has about the students.

- Although some of the dimensions of teachers' thinking may seem negative regarding some aspects of the experienced processes (such is the case when a teacher views the student as belonging to a homogeneous and non differentiated group, our yet, when the teaching is considered as something static), or positive (such is the case of the concept of school success/failure conceived as a process capable of undergoing changes as a result of student's or broader context's variables, including variables related to the undergoing teaching), these dimensions are considered as products of specific observed contexts. It is possible that the definition of these dimensions characterizes the determination of a kind of taxonomy of narratives – or the definition of different kinds of narrative and what differentiates those narratives (Fenstermacher, 1997). The previous assumption that the teachers' narratives lie onto or are supported by continua characterized by extreme opposing points seems to be alternative to the Manichian vision of the nature of the teacher's practice or of a specific way of expressing it.

- It can be inferred that a set of conceptual orientations carried by the teachers exists, and that such orientations are not always coherent when considered as part of a system. A given teacher might present contents of different natures in his or her set of conceptual orientations. This set can also contain elements that suggest a jump from a less elaborate level to a more complex one with the passage of time.

- The concepts revealed by the teachers along the process need to be better understood, since many times their meaning could be wrongly interpreted. It is believed that this set of concepts consists another starting point to the broadening of opportunities offered to both teachers, as far as their professional development is concerned, and students, as far as the teaching and learning process is concerned.

- The confrontation of the concepts verbalized by the teachers with the literature of the educational area indicates that their personal theories (if the set of beliefs, values, perspectives, attitudes and

ideas developed by the teachers as consequence of their professional / personal or otherwise experiences can be so called) in many aspects match the formal theories, that is, those that result from research work regarding the practices, contexts and phenomena that are developed by means of constructs, external systems or reference frames that favor their comprehension (Knowles et al, 1994). This seems to be the case with some of the ideas presented concerning the students, learning, teaching and being a teacher, and, especially, those that refer to the student as an individual; success/failure as a process susceptible of undergoing change, as a result of variables from the students and broader contexts, including the teaching ministered; school learning as a process of socialization; teaching as a process of permanent learning, and being a teacher as a consequence of a process of collective construction of practices, learning to teach and learning to be a teacher.

- The data obtained strongly indicate the occurrence of different levels and types of knowledge, suggesting that the axes or continua identified might be interpreted as conceptual orientations, other than rigid and compartmentalized categories of the different components of teaching as pointed before: personal knowledge, professional knowledge, propositional and theoretical knowledge. Based on the categories considered by Valli (1992) and Hatton and Smith (1995), it was possible, in some cases, to identify some of the levels described by these authors. The schooteachers' concepts were many times presented through descriptive texts, which contained nothing more than the recording of events, without elements, that fundament or justify their occurrence, or yet, demonstrated a preoccupation on the acquisition of abilities in a behavioral perspective. Some of the teachers presented elements of decision making in technical terms, so that adequate student performance is emphasized, but related to the discussion of the teachers' own performance. Other conceptions suggest the occurrence of a reflective description in which, besides the description of events, justifications based on personal judgment or alternative viewpoints are also presented, or yet, reflection-in-action in which the situation, that is, the pedagogical activity itself, is regarded as an important source of knowledge.

- The analysis of the material as a whole permitted us to understand that by describing the students and analyzing the teaching and learning process, the teachers tell stories lived by themselves as sacred and secret stories (Clandinin & Connelly, 1996). Some times, these stories have happened in the classroom. Stories at times shared by different people as well possibly a 'secret story mixed with a sacred story". It is suspected that 'sacred' and 'façade' stories possibly not always achieve an internal coherence, because it is possible that the teachers build alternate routes necessary to their professional survival. It does not seem likely that the 'façade stories' are built in consonance with the 'sacred stories'. It is possible that this kind of strategy favors the inclusion of a particular teacher in specific groups valued by the school culture.

- Little is known about the processes involved in a type of activity whose results apparently have been altered with the passage of time and the participation of teachers with different mindsets, nor how these processes work. It is believed that the teachers shifted from implicit and intuitive reflections to more systematic reflections over their pedagogical practice as well over their students.

- Taking into account the clash of the teachers' conceptions on Portuguese and Mathematics as well as the teaching of these subject matters and what is proposed by the actual educational public policies, some tendencies were verified. To talk about activities to be developed in the classroom seems to stir the teachers immediately, reinforcing something that constitutes, at first sight, the teachers' identity: *how to do*. But this perspective fades quickly, since the teachers provide counterpoints to the 'reality' to disqualify the suggestion ('that can't be done with that many students', 'easier said than done' etc.), or recognize what is said as something that they already do. It is the question of the meaning giving to the activities, which conveys the intentions and expectations concerning the schooling processes of the children and its social meaning. In consequence, the teachers' concepts function as grounding for the establishment of actions, even when the discourse apparently promotes the heterogeneity of activities.

- Analyzing a concrete activity developed by one of the teachers in his or her classroom provides an opportunity to understand the heterogeneity, the differences and divergences, and consequently to have access to a profound element of pedagogical action: the meanings given by the teachers to the activities by them developed. As research strategy, it revealed itself as being very proficuous, providing access to different meanings attributed to similar enunciations related to the functions and intentions on the teaching of Portuguese and Mathematics. Nevertheless, for their use as a strategy of in-service teacher education and of access to new knowledge and revision of positions, some elements must be considered.

- The schoolteachers, when discussing concepts, contents and conceptualizations from an activity provided by one of their peers, usually reacted strongly and silenced themselves, in apparent attempt to protect they. There was the constant risk of judgment by the school group, which provided confrontations that many times seemed nebulous to the researchers and that concerned disputes that had no direct relation to the object of the research.

- When working in small groups, by grades, the teachers appeared to demonstrate more complicity, expressing themselves more freely than when doing collective activities. There seemed to be some sort of fear for the judgment of their peers who were in charge of more advanced grades, as well as attempts not to 'judge' those of previous grades.

- The analyses made by the researchers or the theoretical confrontation / explanation configured the exposition of a 'not knowing something' of the teachers, in an uneven relation, since the

theoretical references were known by the researchers and not by the teachers; the teachers' escape route from such type of situation was invariably disqualifying the researchers' affirmations by means of the specific context of the pedagogical practices related to the elementary school, from which the researchers were distant in terms of continuous immersion.

- In the context of in-service teacher education programs, to talk about the concepts and contexts detached from effective pedagogical practices – and avoiding the confrontation with the conceptions of the schoolteachers - seemed to be more successful if the intention was to make the teachers consider alternative forms to those by them adopted when conceptualizing and practicing the teaching of Portuguese and Mathematics. To offer conceptual elements to the teachers, not having the intention of 'bending' their thinking or imposing other ways of thinking seemed to guarantee a greater participation in the project, diminishing their need to defend themselves.

- Individuals are part of a web or relationships with the world that capacitates them to acquire a peculiar form of existence constructing their symbolic field of significations. That symbolical capacity of the human being that is expressed through language is directly related to the species global social practice. There is no illusion that, by force of simple hierarchical power, the teachers have changed or will change their way or conceptualizing and practicing their teaching. There must be built, during their in-service teacher education program, a network of interactions that allows them to invest on the access of new knowledge and the reviewing of their positions, without the need to defend themselves from attempts of the imposition of changes they do not comprehend. What we usually called resistance to change seems to be much more related to the teachers' resistance of being dispossessed of their knowledge (knowledge learned from experience, but also knowledge they came in contact with during their initial formation).

-The confrontation of conceptions allowed the teachers to make clear to themselves what they thought and to note the differences and divergences between them, along with what is proposed by the actual public policies. But this dynamic demands time, the tightening of relationships and the guarantee of the possibility of the existence of diverse ways of thinking and acting in a school. In order to make that possible, minimal common bases must be built in the institution, so that the proper work environment is maintained.

In a similar way to that faced by Wasser & Bresler (1998), the present research group was initially seen as having a fixed structure in the project. However, this structure went through changes when members started to create an identity for the group: by assuming different commitments, creating rituals and routines in order to give it form (labeling activities, structuring meetings, publishing reports, etc.), and making explicit group related values. During the six years of this project the participants have given interpretative meanings, raised ideas, contested opinions,

redirected processes, reaffirmed or reformulated convictions, etc., in ways that make it impossible, currently, to establish clear lines between individual contributions. Many of the individual contributions have been possible only through the group. The construction of the group process and of the group itself as an interpretative tool went through various individual and collective understandings which generated many changes to the project which in turn redirected it to the investigated problem as well as to the formative and investigative processes under consideration. The professional development process, previously seen as unidirectional, became known as bi-directional, that is part of individual and group work. the interpretations that, in the beginning tended to be more topics oriented, started to assume a process orientation. The project has also undergone different processes of decision-making, which affected the group construction in relation to the theoretical and methodological orientations to be adopted. During this process, the concept of interpretative zone has been especially important to understanding the different group dynamics

The processes lived through the project have been slow, arduous, and engrossing to all the participants. The minor changes are seeds to more significative ones, and the development of the project has offered evidence that supports this statement. The progress and success achieved are non-linear to every person involved. There exists, nevertheless, a common aspect comprehended by the reiterated use of a metaphor employed by a third grade teacher, referring to individual and collective professional development processes ... *it's as if we were walking with boots of lead...*

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I. DOCUMENT IDENTIFICATION:

Title: PUBLIC SCHOOL - UNIVERSITY PARTNERSHIP AND THE PROFESSIONAL DEVELOPMENT OF ELEMENTARY SCHOOL TEACHERS: ANALYZING SOME OF THE IMPACTS OF A LONG-TERM TEACHING AND LEARNING EXPERIENCE	
Author(s): MIZUKAMI, MARIA DA GRAÇA NICOLETTI et al.	
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Organization/Address: PPGE - UFSCar Rod. Washington Luis, Km 235 13565-905 SÃO CARLOS - SP BRAZIL	Telephone: 55 16 2608373 / FAX: 55 16 2608372
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